The Stamford 2030 District

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Buildings and Climate Change

Energy Consumption

U.S. Energy Consumption by Sector
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Co2 Emissions

U.S. CO₂ Emissions by Sector
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2030 Districts

10 Established Districts, 7 Emerging
District-Wide Goals

- Building Energy Use
- Water Consumption
- Transportation GHG Emissions
2030 Challenge for Planning

Existing Buildings

New Construction

The 2030 Challenge for Planning: Existing Buildings

The 2030 Challenge for Planning: New Buildings & Major Renovations
*Using no fossil fuel GHG-emitting energy or appliances.
2030 Districts Overview

PROPERTY OWNERS AND MANAGERS

SERVICES STAKEHOLDERS

COMMUNITY STAKEHOLDERS

STAMFORD 2030 DISTRICT
Implementation

- Utilize special financing programs
- Receive comparative analysis reports
- Improve competitive positioning
- Access exclusive incentives, discounts & programs
Why Stamford?
Resiliency Focus
November 11, 2007, the City of Stamford established an Energy Improvement District.

Intent to provide property owners with the means to create alternative energy systems including distributive generation, combined heat and power, and renewable energy systems and to do so in partnership with other properties.
1) **Distributed Generation**: install clean micro generation equipment at or near its point of use - **Payback to investment: 3-5 years.**
   a) Recapture generator heat for heat and cooling demands
   - 30 to 75% efficiency vs Central power
   b) Interconnect to the grid as backup for reliable power.

2) **Demand Management**: invest in energy saving equipment and practices. **Payback to investment: 1-2 years.**

3) **Demand Response**: take a payment to curtail electric use when the local utility is short on power. **Payback to investment: instant**
Resilience has to address the “system of systems” that makes up a city.

For example:

- Multiple connections and interactions:
  - Causal
  - Resources, data
- Because each system will have different owners and stakeholders, resilience is a multi-organizational endeavor.
Achieving resilience is a process, spanning multiple activities and time-scales.

Resilience Scorecard

**MULTI-DECADES**
- Long run risk prediction (e.g., climate change impact, earthquake risk)
  - Production methods
  - Infrastructure hardening and duplication

**DECADE → YEARS**
- Land use decisions
- Consumption patterns
  - Corporate risk assessment
  - Public awareness

**SUB-DECADE → YEARS**
- Building code revisions
  - Emergency planning and simulation
  - Seasonal forecasting (weather patterns, pandemics)

**MONTHS → WEEKS**
- (Monitoring of pandemics, famines, droughts)
  - Pre-positioning supplies
  - Event tracking and alerts

**DAYS → HOURS**
- Evacuation and property securing
  - Forecasting (weather events)

**HOURS → DAYS**
- Impact tracking
  - First Response

**WEEKS → MONTHS**
- Debris removal, restarting infrastructure
  - Emergency shelter, food, first aid, power etc

**YEARS → SUB-DECADE**
- Short run economic “re-boot”
- Loss adjustment, insurance payments

Learn and Improve

Resilience – Scorecard
1. **Renewable Energy**
   Using a biological process called anaerobic digestion we produce biogas which can be converted into many energy end products, including electricity and natural gas.

2. **Compost**
   Further biologically processing the organic matter remaining after the energy extraction process is complete we produce a rich soil amendment with a myriad of environmental benefits.

3. **Food**
   Utilizing heat and by-products from our AD and composting operations we create ideal growth conditions for the production of local foods for local people on a sustainable year-round basis even in cold climates.

**Organic Waste**
Food and yard waste is diverted from landfills and incinerators and brought to our facilities. Depending on location, we will also be capable of recycling farm waste and manures.
• Located in Town of Southington
• $20 million state-of-the-art organics recycling facility
• Convert 50,000 tons per year of source separated organics and 25,000 tons per year of leaf, woody and yard waste into 1.4 megawatts of renewable electricity
34 Members

15 Property Owners & Managers

11 Community Partners

8 Professional Partners
Watch our progress!

@Stamford2030
@StamfordEconDev

www.2030Districts.org/Stamford

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